Psychological distress in international university students: An Australian study

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Abstract

Australia is a much sort after destination of study for many thousands of international university students. However, tertiary study brings with it many challenges that may potentially precipitate psychological distress in international students. Psychological distress may be experienced in various ways. The aim of this study was to investigate the manner in which psychological distress is manifested in international students and the factors that contribute to their psychological distress. The participants consisted of 86 international students enrolled at a Queensland university who completed a battery of nine self-report questionnaires. Results showed that obsessive-compulsiveness reflected by worry, ruminations and perfectionist tendencies was the most common symptom of psychological distress in international students. Dysfunctional coping was the only factor contributing to psychological distress. These findings have important implications for the international students with reference to the assessment of their mental health issues and the designing of suitable intervention programs.

Psychological distress in international university students: An Australian study

In Australia 23 percent of tertiary students are from foreign countries with the vast majority (80%) coming from Asia (IDP Education Australia Ltd, 2004). International students bring with them an array of experiences that reflect individual, cultural and social elements of their lives. They also enrich the nation's economy with an estimated five billion dollars a year being generated through the payment of tuition fees and associated expenses. This figure surpasses Australia's wool, wheat, and beef export revenue (Department of Foreign Affairs and Trade, 2005). Without doubt, international students are a major source of revenue for Australia. Most of the major universities aim to attract international students through rigorous marketing campaigns (Bollag, 2004). The experience of studying abroad broadens the world views and professional knowledge of international students (Ward, Bochner, & Furnham, 2001). However, they tend to encounter stresses and adjustment issues during their sojourn years.

University is a stressful time for both commencing host and international students due to adjusting to new educational and social environments as well as coping with developmental issues such as psychological autonomy, economic independence and identity formation (Furnham, 2004). However, in addition to the usual adjustment process international students have a number of other stressors including the added strain of having to learn different cultural norms, language and a new educational system (Mori, 2000, Toyokawa & Toyokawa, 2002). The way in which these stressors are perceived and dealt with will largely influence the quality of the sojourn experience of the international student.

The psychological distress of international students has been studied for many years. Ward (1967) used the expression "foreign student syndrome" to illustrate the unique way in which international students manifest stress. Symptoms of vagueness, passiveness, non-

identifiable physical complaints, poor communication style, and lack of attention to physical appearance were being synonymous with this condition. Oberg (1960) identified the characteristics of anxiety and disorientation in individuals suffering with this syndrome. “Uprooting disorder” was the term used by Zwingman (1978) to depict the adjustment experiences of these students. Associated with this complaint were the distinct psychological symptoms of alienation, depression, nostalgia, and a sense of hopelessness. Tsang (2001) used the phrase “international adjustment” or “sojourner adjustment” to describe the acculturation of individuals who were temporarily residing in a host nation for a limited period of time and therefore often less motivated to engage with the host society.

The literature indicates that somatic complaints, along with the range of depression, anxiety and social difficulties, are also manifested by the international students. According to some researchers (Allen & Cole, 1987; Mori, 2000) it may be used to prevent the loss of face that may be incurred when a psychological problem is present. Rather than expressing distress as depression or anxiety (Allen & Cole, 1987; Mori, 2000), symptoms of headaches, low energy, gastrointestinal problems (Thomas & Althen, 1989), respiratory disorders (Allen & Cole, 1987), loss of appetite, fatigue, and sleep problems (Lin & Yi, 1997) have been identified in Asian international students.

The prevalence of mental health problems amongst international students varies widely in literature. Church (1982) suggested that mental health issues posed a problem for approximately 15 to 25 percent of all international students. In a retrospective study of psychiatric morbidity rates in Yugoslavia, the hospital records of foreign and domestic students were examined from 1956 to 1980. Results showed that of the total number of foreign students, who were hospitalised, 67 percent were diagnosed as suffering paranoid delusions, 62 percent had depressive symptoms and 52 percent were assessed as suffering

anxiety. Foreign students had significantly higher results on all of the above disorders than the host students (Janca & Hetzer, 1992).

A review of the literature indicates that the psychological distress of the international students is influenced by a range of demographic and psychosocial demands (Furnham, 2004). Demographic factors such as finances, accommodation, language and academic stress affect the international students. Rising tuition fees and living expenses are major issues of concern (Chen, 1999). Remedying the financial situation is often difficult as visa restrictions limit the amount of work international students can undertake. The financial concerns of international students have been commonly identified as significant sources of stress and one of the primary reasons for withdrawal from studies for international students (Guilfoyle, 2004).

Being a temporary resident, the international students need affordable accommodation. However, according to the National Liaison Committee for International Students in Australia (NLCIA), there is a scarcity of affordable housing for these students in Australia. The strain on the rental market by the steadily increasing numbers of students has been reflected in an increase in rental prices (NLCIA, 2000; Student Housing, 2002). Rising costs and discontent with accommodation may serve to augment the financial and psychological strain on international students.

The international students' capacity to communicate in the language of the host country is crucial for their survival. As language impacts on the educational and sociocultural aspects of the student's life, a lack of proficiency in the host language may render the student seriously disadvantaged as he/she struggles to master verbal and written communication and may be hindered from social interactions and academic success. Subsequently, the academic failure may lead to grief and shame particularly for cultures in which face enhancement is integral to identity (Chen, 1999). Studies points to the deleterious consequences of a lack of

language proficiency to the psychological well-being of the individual (Redmond & Bunyi, 1993; Yang & Clum, 1994).

As the primary aim of study abroad is to obtain a tertiary qualification, it may be plausible to expect that academic issues are the most disconcerting to international students. Research indicates that many international students have excessive concerns and place extreme demands on themselves in relation to the attainment of academic excellence. Students have reported higher stress from failure to obtain the academic goals they had desired (Rice & Dellwo, 2002). As many Asian educational systems encourage the attributes of memorisation and imitation rather than the capacity to analyse, discuss, question, and develop individual viewpoints, the differences in learning environments have been shown to generate major sources of stress and the raise the risk of anxiety and depression (Abramovitch, Schreier, & Koren, 2000).

Social factors, such perceived discrimination and social isolation appear to be associated with the psychological distress of the international students. Discrimination is a perception that one is subjected to unfair treatment on the basis of one's group membership (Matsumoto & Juang, 2004). Studies show that discrimination has the potential to evoke a sense of low self-esteem and low self-confidence as the individual internalises the negative evaluations (Tajfel & Turner, 1986; Zimbardo & Leippe, 1991). Additionally, when faced with social and academic difficulties it increases the students' hypervigilance to harm and threat. Williams and Berry (1991) suggest that discrimination is one of the most deleterious acculturation experiences for the psychological well-being of the individual.

Much research points to the advantages of social support on an individual's personal adjustment (Cohen & Wills, 1985). Social support may be defined as the availability of caring people, who can be relied upon for assistance at the time of stress (Sarason, Sarason, & Pierce, 1990). Dunkel-Schetter and Bennet (1990) found that perceived social support was

more associated with mental health than the actual level of social support received. A lack of availability of support is more likely to predict poor psychological and sociocultural adaptation (Burns, 1991; Berno & Ward, 2002). Yang and Clum (1994) found that poor social support was associated with depressive symptoms and feelings of hopelessness in international students.

Finally, psychological factors such as the international students' expectations of their learning environment as well as their coping appear to be related to their stressful experiences. Australian research shows that international students perceive themselves as both students and customers of a service organisation in which customer service is of prime importance (East, 2001; Smart, Volet, & Ang, 2000). Berno and Ward (2002) maintain that the difference between expectations of service and experiences of service is associated with overall adaptation: the bigger the discrepancies, the poorer the psychological and sociocultural adaptation. Undermet expectation is one of the contributing factors to poorer adaptation in international students.

Another psychological factor is the coping that individuals ulitise to deal with the difficult situations in life (Lazarus & Folkman, 1984). Individuals vary in how they interpret and deal with stress and in their sensitivity and vulnerability to specific types of stress (Hashim & Zhiliang, 2003). Coping resources include personal assets such as abilities, knowledge and verbal skills. Differences in coping styles have been found within and between cultural groups. Leong and Lau (2001) maintain that Asian cultures have a tendency to utilise repression and avoidance. Similarly, Bjork, Cuthbertson, Thurman and Lee (2001) state that passive coping strategies such as avoidance, withdrawal, resignation to and acceptance of fate is ubiquitous to the Asian coping style.

Berry (1980) suggests that when coping resources during acculturation are insufficient or maladaptive, psychopathological consequences may ensure. Dysfunctional

coping primarily entails the use of responses that are aimed at dealing with internal distress. It includes negative emotion-focused strategies such as substance use, behavioural disengagement, self-blame, and denial (Carver, 1997). Negative forms of coping have been shown to be negatively associated with overall health outcomes (Sheu, Lin, & Hwang, 2002). Thus, previous studies have implicated a number of stressors that are common to international students' sojourn experiences.

Rationale for study

International students are now a vital part of the Australian economy and educational environment. Although, a number of North American and European studies consistently show that psychological distress is a critical phenomenon in international students (Mallinckrodt & Leong, 1992; Ward, 1967; Church, 1982; Aubrey, 1991; Redmond & Bunyi, 1993) there is a paucity of psychological research on the mental health of international students in Australia. Further, a few studies have systematically looked at a combination of demographic and psychosocial variables and even fewer have investigated the manner in which international students experience psychological distress. Thus, this study is important to broaden the understanding of the factors that contribute to psychological distress and the manner is which psychological distress is experienced in international students.

The study investigated the manner in which international students manifested psychological distress. It was hypothesised that there would be a higher level of depression, anxiety, somatisation and interpersonal difficulties. The study also examined the factors that contributed to psychological distress. It was hypothesised that a range of demographic factors such as financial satisfaction, accommodation satisfaction, language proficiency, academic stress and psychosocial factors, such as social isolation, mismatched expectations and dysfunctional coping would contribute to psychological distress in international students.

Method

Participants

The sample consisted of 86 international students studying at the Queensland University of Technology in Brisbane, Australia. They were part of a larger study (Khawaja & Dempsey, submitted). The students ranged in age from 18 to 44 years with a mean of 24.6 years (SD = 5.26). The gender distribution was 24 males (27.9%) and 62 females (72.1). The majority of international students (87.2%) were single, while some were married or in a defecto relationship (12.8 %). A very few of these married students (3.5 %) had spouses accompanying them to Australia. Of all the participants, 41.9% had been sojourning in Australia for more than two years, while the duration of stay was 1 to 2 years for 29.1 % of the students and less than a year for 29.1 % of the students. Taiwan (12.8%), Malaysia (12.8%) and Singapore (10.5%) made up the largest citizenship groups of the international students. Remaining international students came from predominantly Asian countries. More than half of the international participants were residing in rental accommodation (68.6%) and received financial support predominantly through their parents (67.1%).

Measures

The battery used in the study consisted of a demographic form and the following nine paper and pencil scales.

Language Proficiency Scale (adapted from Sam, 2001). This instrument is a 6-item scale assessing language proficiency, such as reading, speaking, comprehension, and writing abilities. All items are rated on a 5-point Likert scale. The scaling for items 1,2,5 and 6 range from 1, “not very well”, to 5, “very well”. Scaling for item 3 ranges from 1, “never”, to 5, “very often” and scaling for item 4 ranges from 1, “not at all”, to 5, “everything”. To add

clarity to the test, two more items were added to the instrument. The instrument has a Cronbach's alpha of .95 (Sam, 2001).

Housing Scale (adapted from Sam, 2001). This instrument is a 2-item scale used to measure satisfaction with accommodation. Item 1 examines the type of housing lived in and item 2 assesses accommodation satisfaction with a 5-point Likert scale ranging from 1, "very dissatisfied", to 5, "very satisfied". As the wording consisted of some terminology familiar to the Norwegian context, item 1 was modified to its English equivalent.

Financial Situation Scale (adapted from Sam, 2001). This instrument is a 2-item scale used to measure financial satisfaction. Item 1 examines the main sources of financial support and item 2 assesses the overall financial situation with a 5-point Likert scale ranging from 1, "very dissatisfied", to 5, "very satisfied". Wording in item 1 was changed to more accurately reflect the Australian situation.

Perceived Discrimination Scale (Sam, 2001). This instrument is a 5-item scale assessing perceptions of negative or unfair treatment or direct experiences of discrimination by others. All items are rated on a 5-point Likert scale. Scaling for items ranges from 1, "strongly disagree" to 5, " strongly agree". The instrument has a Cronbach's alpha of 0.85 (Sam, 2001).

Academic Situation Scale (Sam, 2001). This instrument is a 6-item scale assessing academic stress. All items are rated on a 5-point Likert scale. Scaling for items ranges from 1, " strongly disagree" to 5, " strongly agree". All items are reverse scored. The instrument has a Cronbach's alpha of 0.83 (Sam, 2001).

Servqual Scale (East, 2001, adapted from Parasuraman, Berry, & Zeithaml, 1985). This instrument consists of two scales with 22 items in each scale. One of the scale (Servqual Scale – expectations) assesses expectations and the other (Servqual Scale – perceptions) assesses perceptions of service quality. The difference score between the two scales

constitutes the Servqual Scale. All items are rated on a 7-point Likert scale. Scaling for items range from 1, “strongly disagree” to 7, “ strongly agree”. East (2001) adapted the instrument to suit the university environment. This instrument contains the five dimensions of tangibles, reliability, responsiveness, assurance and empathy. Cronbach’s alpha coefficients reported for tangibles, reliability, responsiveness, assurance, and empathy were .80, .52, .61, .59 and .74 respectively (East, 2001).

Brief Cope Scale (Carver, 1997). This instrument is a 28-item scale assessing an individual’s responses to stressors. All items are rated on a four-point Likert scale ranging from 1, “I usually don’t do this at all” to 4, “I usually do this a lot”. It contains the fourteen subscales of self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion and self-blame. The instrument is a shorter version of the Cope (Carver, Scheier, & Weintraub, 1989). The Cronbach’s alpha coefficient for the scale is .68 (Carver, 1997). Carver (1997) does not advocate the use of a full-scale total score but rather recommends tailoring the subscales to suit the coping style of interest. As this study investigated the factors that contribute to psychological distress, only the negative coping items from this instrument were included in the analyses. The chosen items were 4, 6, 8, 10, 12, 17, 19, 21, 23 and 27. They were identified as the Dysfunctional Coping.

Personal Resource Questionnaire Scale 85 (Brandt & Weinart, 1981). This is a 25-item scale assessing perceived social support. All items are rated on a 5-point Likert scale. Scaling for items ranges from 1, “strongly disagree” to 5, “strongly agree”. The instrument has a Cronbach’s alphas varying between .86 to .91 (Chen, Deng, & Chang, 2001).

Hopkins Symptom Checklist Scale (Derogatis, Lipman, Rickels, Uhlenhut, & Covi, 1974). This instrument is a 62-item scale assessing psychological distress. All items are rated on a 4-point Likert scale, ranging from 0, “not at all” to 3, “extremely”. It contains the

five subscales of somatisation, obsessive-compulsive, interpersonal sensitivity, depression and anxiety. As item 30 used colloquialism that international students may not have been familiar with, the word "sad" was included in brackets after "blue" to give more clarity to the statement. Cronbach's alpha coefficients for the five subscales have ranged from .84 to .87 (Derogatis et al., 1974).

Demographics information sheet. A demographics information sheet was developed to ascertain information relating to age, gender, marital status, mode of study, program type, faculty of enrolment, course name, campus base, country of citizenship, length of residence in Australia and duration of time spent at university.

Procedure

Ethical approval was obtained from the university's Human Ethics Committee prior to the commencement of the study. The International Student Office, International Student Guild and International Language College of the university were informed about the study. The participants were recruited on a voluntary basis. A ticket in a raffle for the prize draw of a $100 dinner voucher redeemable at an inner city restaurant was offered as an incentive.

All participants were given a package consisting of an information sheet, debriefing notes, consent form, a demographics sheet and the questionnaire. To maintain confidentiality, consent forms and the raffle draw forms were separated from the battery on receipt of the completed questionnaire.

Design

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) Version 13. Pearson's correlation coefficient was calculated between each pair of variables. A multiple regression analyses was conducted to determine the associations between the factors such as, financial satisfaction, accommodation satisfaction, language proficiency, academic stress, social support, perceived discrimination, mismatched

expectations and dysfunctional coping and psychological distress in international students. Repeated Measures Anova was performed to investigate the differences between the various symptoms of psychological distress in international students that were measured by Hopkins Symptom Checklist subscales.

Results

Data Screening

Data was screened for missing values and accuracy. This revealed a minimal amount of missing data with less than 5% missing for any variable. Random missing values in the data set were replaced with the mean of the variable (Tabachnick & Fidell, 2001). Normality was assessed by inspecting descriptive frequencies and histograms.

Reliability of Scales

Cronbach's alpha coefficients were calculated to determine the internal consistency of the scales. The Cronbach's alpha coefficients for the Financial Situation Scale (.31), Housing Scale (.88), Language Proficiency Scale (.92), Perceived Discrimination Scale (.85), Servqual Scale – expectations (.93), Servqual Scale – perceptions (.93), Dysfunctional Coping (.66), Personal Resource Questionnaire (.91), Academic Situation scale (.63), Hopkins Symptom Checklist (.96) and its subscales Somatisation (.83), Obsessive-Compulsive (.84), Interpersonal Sensitivity (.77), Depression (.83), and Anxiety (.80) were satisfactory.

Manifestation of psychological distress in international students

A One-way Repeated Measures ANOVA was conducted to assess if there were any significant differences in the experience of psychological distress for international students. Due to unequal numbers of items in each of the Hopkins Symptoms Checklist subscales, the scores were standardised by dividing the total subscale scores by the number of items in the subscale.

Mauchley's test revealed that the variance of the difference scores was not similar across all the groups, consequently the Greenhouse-Geisser epsilon was used to accommodate the violation, F (3.45, 289.72) = 32.58, $p < .001$. Results showed that there was a significant difference between the subscales for international students, F (4, 81) = 21.67, $p < .001$. Follow–up tests applying a Bonferroni adjustment were conducted to assess the pairwise differences among the mean comparisons. Though there was no significant difference between Interpersonal Sensitivity and Depression subscale scores and no significant difference between Somatisation and Anxiety subscale scores, there was a significant difference between Obsessive-Compulsive and the other subscales. Obsessive-Compulsive showed the highest score followed by Interpersonal Sensitivity and Depression, and finally Somatisation and Anxiety (Figure 1). This indicated that out of the five dimensions, obsessive compulsiveness was the most commonly experienced form of psychological distress in international students. Furthermore, obsessive compulsiveness was being experienced almost twice as much as anxiety. Using the criterion of 1.75 for clinical distress (Oppedal & Roysamb, 2004; Frojdh, Hakansson, & Karlsson, 2004; Veijola et al., 2003), all group mean subscale scores were below this level of symptom severity. Whilst the group mean scores did not indicate clinical distress, data revealed that of those scoring 1.75 or over on the symptom subscales, 12 were in obsessive compulsive (14.2%), 4 in somatisation (4.8%), 5 in interpersonal sensitivity (5.9%), 3 in depression (3.6%) and 2 in anxiety (2.4%).

Factors contributing to the psychological distress in international students

A standard multiple regression was conducted to examine the contribution of Accommodation Satisfaction, Financial Satisfaction, Language Proficiency, Perceived Discrimination, Mismatched Expectations, Dysfunctional Coping, Social Support and Academic Stress to Psychological Distress in international students. Table 1 shows the

unstandardised regression coefficients (*B*) and the standardised regression coefficients (β) as well as the standard error for students.

The results of the analyses indicated that the variables accounted for a significant amount of variance in psychological distress, $R^2 = .253$, $F\ (8, 81) = 3.09$, $p < .01$. The regression coefficients revealed that dysfunctional coping was the strongest and only significant predictor with a part correlation indicating that 8.6% of the variance in psychological distress was being uniquely explained by dysfunctional coping, $p < .01$.

Discussion

The present study examined the psychological distress of international students. The findings elucidate the way in which students express their emotional reactions and the factors that contribute to their psychological distress.

Manifestation of psychological distress in international students

Contrary to the expectations, the participants did not reflect anxiety, depression, somatisation or interpersonal difficulties. Of all the symptoms, obsessive compulsiveness was the most commonly reported reaction in international students. This is contrary to the research by Ward (1967). “Worried about sloppiness or carelessness”; “Having to do things very slowly in order to ensure you were doing them right”; and “Having to check and double check what you do” are some of the items that constitute the obsessive-compulsive symptomatology on the Hopkins Symptom Checklist. In particular, they are reflective of perfectionistic tendencies, which is a basic element of obsessive-compulsive disorder. Given the pressures to perform at a high standard in the academic arena, it is plausible to expect that worry and rumination over making mistakes would be the most common feature of psychological distress in tertiary international students.

Although obsessive-compulsive symptoms were the most commonly reported form of psychological distress, the proportion of international students (14.2%) in the clinical range of morbidity is less than the conservative side of estimates (15%-25%) reported by Church (1982). Furthermore, the percentage of international students in the clinical range for depression (3.6% vs 62%) and anxiety (2.4% vs 52%) is grossly under those reported in the Hungarian study by Janca and Hetzer (1992). It seems that international students in this study are coping much better than anticipated. Also the fact that obsessive-compulsiveness was the most commonly reported symptom in students may point to the desirability of academic excellence rather than the presence of psychopathology. "Having to do things very slowly to ensure correctness" or "Worried about sloppiness or carelessness" may be commendable behaviour for high achieving tertiary students. These findings have important implications for the assessment and treatment of mental health programs to university students.

Factors contributing to the psychological distress in international students

Results suggest that the distress of participants is influenced by their use of dysfunctional coping strategies. The relationship between dysfunctional coping and psychological distress is consistent with previous research by Berry (1980) and Sheu, Lin and Hwang (2002) who found that negative forms of coping are negatively associated with overall health. Studies have shown that Asian students use more negative coping styles such as repression, avoidance (Leong & Lau, 2001), withdrawal, resignation and acceptance (Bjork, et al., 2001). As dysfunctional coping was the only variable contributing to psychological distress this highlights the crucial role of appraisals in the stress-coping framework (Lazarus & Folkman, 1984).

The way in which international students perceive and respond to events is a potent determinant of how they will be affected by stress. Lazarus (1993) pointed to the way in

which events may be appraised as either harmful, threatening or challenging. The presence of psychological distress may indicate that international students perceived events as being harmful or threatening to them. However, when considering that psychological distress in international students is being manifested largely through perfectionistic tendencies such as worry and rumination over meeting high standards, it is plausible to expect that coping skills may be taxed beyond their limits.

It is important to note that the other factors such as financial and accommodation satisfaction, perceived discrimination, language proficiency, academic stress, social support and mismatched expectations failed to contribute to the psychological distress of the international students. Absence of a relationship between financial and accommodation satisfaction and psychological distress is not consistent with previous research (Guilfoyle, 2004; NLCIA, 2000). However, this may have been due to the brevity of the instruments. It is plausible that psychological distress may not be so much a result of being dissatisfied with one's accommodation or financial circumstances but may be more closely related to the difficulties encountered in securing adequate housing and finance. As the majority of the participants had been in Australia for more than a year, it is therefore, possible that they had managed these initial settlement difficulties.

Further, language proficiency, in contradiction to previous studies (Redmond & Bunyi, 1993; Yang & Clum, 1994), was not related to distress. It is possible that due to the emphasis on English language proficiency as an essential determinant of enrolment, the participants had a reasonable command over the language. On the other hand, as intercultural contact is becoming increasing more commonplace, a lack of English language proficiency may not be as detrimental to mental health as it was in previous years. In the same manner, inconsistent with previous research (Abramovitch et al., 2000), academic stress was not linked with psychological distress. It may be possible that academic stress may not be

predictive of distress in the presence of good academic preparation skills. Being organised and up to date with course requirements may facilitate satisfaction about one's accomplishments (Sam, 2001). Also, the great sense of obligation that international students may feel to perform well academically, may well act as a motivating force in times of difficulty (Shik, 1995). Additionally, mismatched expectations failed to contribute to the psychological distress of the participants. The findings are not consistent with previous research (Berno & Ward, 2002). Black and Gregersen (1990) state that whilst overmet expectations are associated with general satisfaction, undermet expectations do not appear to be related. It is also possible that due to the universities approach of providing detailed information about the institution and the academic program, the participants' expectations were met adequately (Sam, 2001).

Similarly, perceived discrimination was not associated with psychological distress of the international students. This outcome was not consistent with previous findings (Williams & Berry, 1991). Perhaps the experience of discrimination is not as debilitating to international students in Australia as it is to international students overseas. Moreover, contrary to the literature social support was not related to the psychological distress (Yang & Clum, 1994: Burns, 1991; Berno & Ward, 2002). As most studies were conducted overseas it may be plausible that the international students in Australia may not be isolated and therefore, social support is not associated with distress.

Limitations and future research

The results of the study should be taken with caution. First, the social desirability effect may have been present. Participants may have reported more favourable responses to present themselves as well adjusted, to avoid appearing distressed. Future studies should add a Social Desirability scale to adequately measure the response bias. Further, it is also possible

that those who offered to participate in the study were more psychologically adjusted than those who chose not to participate thereby providing a generally psychologically healthy sample for this study. Second, the suitability of using tests like the Hopkins Symptom Checklist in diverse cultures has been a topical issue in recent years. Tests that are normed and validated in Western contexts (mainly Euro-American) may not be appropriate for use in non-Western groups (Lie, 2002; Sue, 1999; Lee, 1994). Whilst the Hopkins Symptom Checklist has been used in studies with non-Western immigrant and refugee populations (Kaaya et al., 2002; Veijola et al., 2003), its utility in international student populations is yet to be firmly established. Third, the confounding effects of using a single institution in this study may have also presented another limitation. This may result in a fairly homogenous sample. There may be characteristics that are unique to the university. As this study utilised a convenience sample a large percentage of participants were enrolled in the Health Faculty. Fourth, the sample was small and does not adequately represent the normal international student population.

Future research should examine international students at various universities across Australia. By recruiting a larger sample, a more sophisticated analysis may be conducted to gain greater understanding of the manner in which psychological distress is experienced in university students. A more evenly sampled population of students from a range of age groups, marital status, faculties, cultures and gender may also assist in the generalisability of results. Further research should be undertaken before any firm conclusions may be established.

Conclusion

This study sought to investigate psychological distress in international students. The most common symptom of psychological distress being experienced by the international students was obsessive-compulsiveness reflected in particular by a perfectionistic orientation.

Therefore, symptom expression is an important area to examine when identifying psychological distress in tertiary international students. Although there are limitations, this study provides further insight into the nature of distress experiences of international students in Australia. Whilst demographic and social factors were not associated with psychological distress, the use of dysfunctional coping strategies did predict the psychological distress in international students.

In the face of these current findings, this study may have practical utility for international student support services in higher education. Intervention programs that inform and teach more appropriate coping strategies may help alleviate the distress experienced by students. It may also assist university counsellors and mental health professionals in the assessment and treatment of distress in both international students.

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Figure 1 shows standardised mean scores for Hopkins Symptom Checklist subscales.

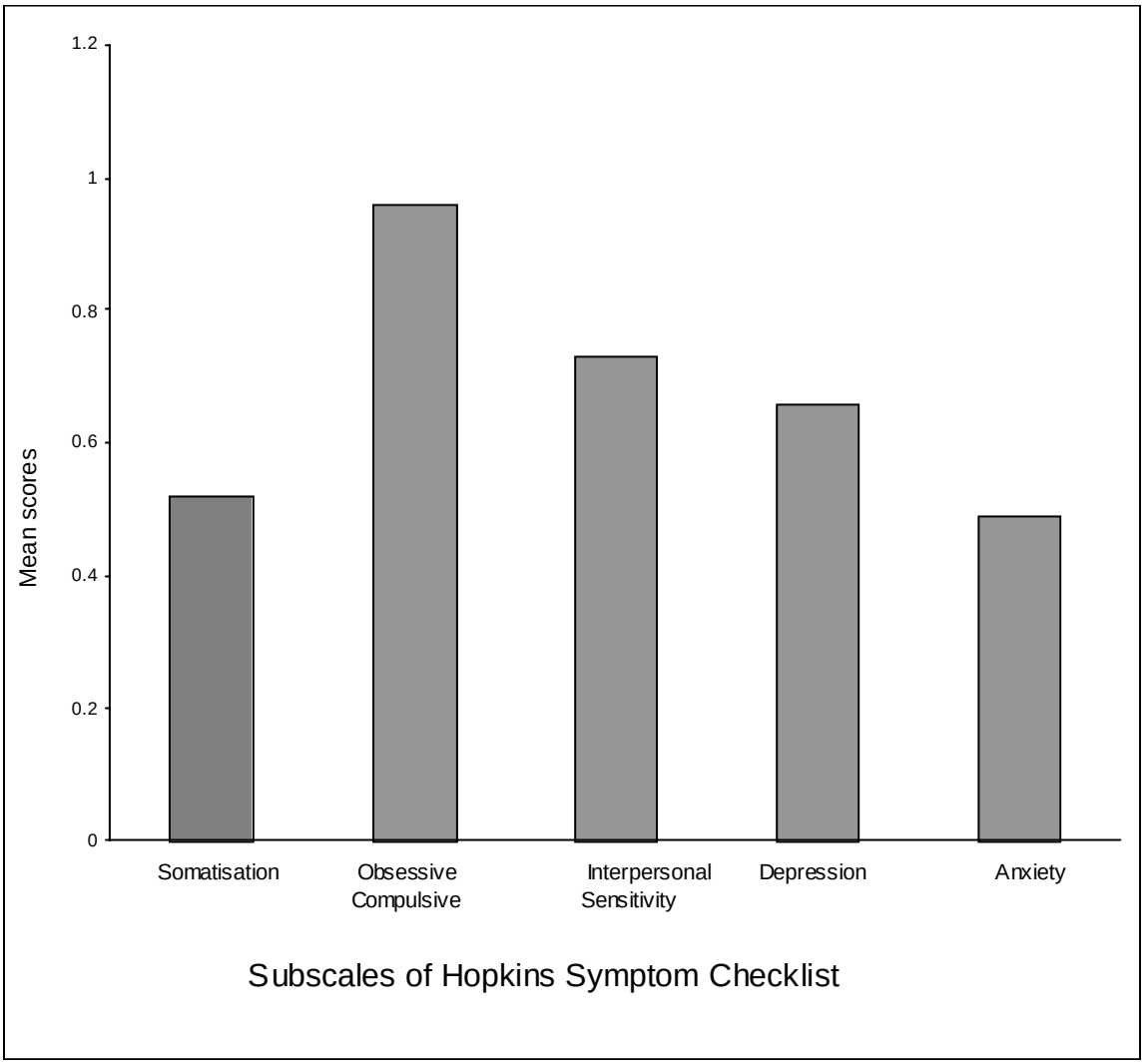

Figure 1

Standardised mean scores for Hopkins Symptom Checklist subscales

Table 1

Multiple Regression Analysis of Accommodation Satisfaction, Financial Satisfaction, Language Proficiency, Perceived Discrimination, Mismatched Expectations, Dysfunctional Coping, Social Support, and Academic Stress as Predictors of Psychological Distress in International Students

Variables	*B*	SE *B*	β
Accommodation Satisfaction	1.69	2.62	.07
Financial Satisfaction	-1.81	3.18	-.06
Language Proficiency	.08	.68	.01
Perceived Discrimination	.09	.58	.02
Mismatched Expectations	-.04	.11	-.04
Dysfunctional Coping	2.0	.70	.31*
Social Support	-.34	.21	-.19
Academic Stress	1.38	.75	.21

(N = 82)
Note - * $p < .01$.